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December 30, 2011

Docket Control
Arizona Corporation Commission
1200 W. Washington
Phoenix, AZ 85007

RE: Arizona Public Service Company 2008 Amended Rate Case - Super Peak and Critical Peak Programs Impact Study Results
Docket No. E-01345A-08-0172

Pursuant to Decision No. 71448, dated December 30, 2009, Arizona Public Service Company ("APS") was ordered as follows:

> APS shall file reports as a compliance item in this docket outlining the study and describing the results of the study by 1/31/2011, a second report by 12/31/2011, and a final report within 30 days of the end of the study.

Enclosed please find APS's Super Peak and Critical Peak Programs Impact Study Results.

If you have any questions regarding this information, please contact Chuck Miessner at (602)250-3081.

Sincerely,

Leland R Snook for

Jeffrey W. Johnson

JJ/cd
Attachment

cc: Brian Bozzo
Steve Olea
Terri Ford

Arizona Corporation Commission
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Arizona Public Service Company
Demand Response Pricing Rates
Second Progress Report
December 2011

In Compliance with Decision No. 71448,
Docket No. E-01345A-08-0172

Arizona Public Service Company
Demand Response Pricing Rates
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Background

In January 2010, APS implemented three new demand response pricing rates: residential super-peak time-of-use rate schedule ET-SP; residential critical peak pricing rate schedule CPP-RES; and general service critical peak pricing rate schedule CPP-GS. These demand response rates, which were approved in Decision No. 71448, are part of APS's plan to achieve an additional 250 MW of demand response.[1]

APS has been conducting a two-year study of these plans over the 2010 and 2011 summer months. The first progress report filed in January 2011 provided a general outline of the study and the results from summer 2010. This second progress report provides the results for summer 2011. A final report will be filed at the end of January 2012 and will include a summary of the results for both program years, assessment of overall costs and benefits of the demand response rates, and assessment of the integration of demand response and energy efficiency programs.

Study Outline

The demand response pricing study is designed to:

1. Determine the impact of the rates on participants' energy use during critical peak hours;
2. Assess the impact on the mix of power generation resources, including the use of coal-fired power resources;
3. Estimate the resulting reductions on air emissions including carbon dioxide, sulfur dioxide, nitrogen oxides, particulate matter, and mercury;
4. Evaluate the overall benefits of demand response programs; and
5. Identify methods to better integrate demand response programs and energy efficiency programs.

[1] See Decision No. 71448, Findings of Fact no. 89.

Program Description

The demand response rates are designed to encourage customer load reduction by providing relatively high price signals during critical summer hours, when APS experiences high electric loads or high electric market prices as a result of major generation or transmission outages.

For ET-SP, super peak hours occur every weekday afternoon, and for CPP-RES and CPP-GS critical hours are intermittent and based on random called events.

ET-SP is similar to the APS's standard TOU rate, ET-2, with a 7 hour on-peak period, but adds a super peak price for weekday afternoons from 3 p.m. to 6 p.m. during June through August. The summer off-peak price is discounted to off-set the higher super peak price. The customer has the opportunity to have lower monthly bills by reducing load during either the on-peak or super-peak periods, or both.

CPP-RES and CPP-GS are in addition to the customer's standard rate plan and provide a high price for critical hours as called by the Company with one day advance notice. A discount is also applied to the customer's total monthly kWh to off-set this high price. Critical events may be invoked by the Company for the period 2 p.m. to 7 p.m. weekdays (Monday through Friday) during June through September, not including holidays. The Company will invoke a minimum of 6 and a maximum of 18 CPP events per calendar year, for 5 hours per event and 90 hours per year. Also, customers on CPP-GS must demonstrate the capability of reducing load by 200 kW prior to going on the rate schedule. The customer has the opportunity to lower monthly bills by reducing load during the critical peak event periods.

RESULTS – SUMMER 2011

Customer Participation

For CPP-RES, customer participation increased year-over-year by 2% to 699 customers for the June through September period. For ET-SP, participation increased by 224% to 304 customers. Because of the success of CPP-RES, the Company filed an application in June 2011 to extend the program through 2014.

In contrast to CPP-RES and ET-SP, APS was not able to acquire business participants for CPP-GS. We believe that customers interested in demand response chose to participate in the alternative Peak Solutions program, which offered better monthly bill savings opportunities and less frequent load interruptions compared with CPP-GS. As a result, APS did not file for an application to extend the two year pilot program which ends December 31, 2011.

Program Impacts

A. Energy and Demand Use by Customers

CPP-RES

APS used a baseline approach to estimate customer load reduction. The customer baseline (CBL) was determined based on the customer's 2 p.m. to 7 p.m. usage for the day prior to a CPP event, not including weekends. The energy reduced is the CBL less actual load during a DR event.

For CPP-RES, APS found the average customer load reduction to be 0.81 kW (21% lower than CBL). The total estimated energy reduced over all critical event hours was 33.9 MWH.

ET-SP

To calculate the energy reduced for ET-SP customers, APS again used a CBL approach. To determine the CBL for ET-SP customers, APS used an indexed load shape from ET-2 customers, a good approximation for baseline time-of-use energy use. As with CPP-RES, energy reduction for ET-SP is calculated as the CBL less average load during the summer period.

For ET-SP, APS found the average customer load reduction to be 1.39 kW (27% lower than CBL). The total estimated energy reduced during the super peak period for June 1 – August 31 was 82.1 MWH.

B. Air Emissions

Table 1 shows the estimated impact on emissions. Because the programs are designed to reduce peak demand for the top 1-2% of hours in the year, the impact is very small compared to energy efficiency programs that would encompass all hours. The impacts on particulate matter and mercury are insignificant and therefore are not listed below.

Table 1.

Air Pollutant	CPP-RES	CPP-GS	ET-SP	Total
Sulfur Dioxide (lbs)	0.2	0	0.37	0.39
Nitrogen Oxide (lbs)	2.9	0	6.94	9.84
Carbon Dioxide (Mil lbs)	0.030	0	0.074	0.104

C. Generation Resources

The average estimated MW reduction for both CPP-RES and ET-SP during critical summer hours was 0.98 MW. This is about a 50% increase in energy savings during the critical peak hours compared to 2010 when both program were first implemented. The marginal generation resource that would be deferred from these programs is a 45 MW LMS 100 combustion turbine unit. It is unlikely that a coal generation unit would be impacted.